OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA FPMR (41 CFR) 101-11.6

UNITED STATES GOVERNMENT

Memorandum

FORESTRY SCIENCES LABORATORY
PACIFIC NORTHWEST FOREST AND
RANGE EXPERIMENT STATION
P.O. BOX 887
CORVALLIS, OREGON 97330

LOL-3-10
1541

4500

TO : B. E. Wickman, Project Leader

DATE: August 2, 1968

FROM : R. R. Mason, Research Entomologist

SUBJECT: Tussock moth populations in the Sierra Ancha Mountains, Arizona

During the week of July 29, Gene Paul and I again visited the tussock moth infestation near Aztec Peak in Arizona. We resampled the ten points around Murphy Ranch that have been used to monitor population trends in that vicinity. I also met with Harold Flake, Frank Yasinsky, and Roy Bond from Region 3, Albuquerque. Flake and I made a helicopter flight over the infestation area and made observations on three newly detected spots of Reynolds Creek. Two of these were examined further on the ground. The third spot is small and inaccessible and was not visited again. Following are general results of this trip.

Murphy Ranch Infestation:

As expected populations at the sample points around Murphy Ranch had declined considerably from the measurement in early June. Most larvae were in the 5th and 6th instars and pupation was commencing in some areas. Average survival of larvae from the first instar to the present, just prior to pupation, was about 25 percent. From previous work, this would appear to be a normal attrition rate in a virus free population. Populations are significantly higher around the north end of the Ranch than they are on the south end. Light defoliation of white fir and Douglas-fir is now clearly visible for the first time, immediately north of the Ranch.

Larvae were collected at all sample points and brought to Corvallis for rearing. A few dead larvae suspected of being killed by virus were also collected for diagnosis.

Pueblo Canyon and Reynolds Creek Infestations:

Pueblo Canyon joins but lies to the north of the Murphy Ranch infestation. It is now clear that tussock moth populations have been at a high level along the upper edge of the canyon, but were not detected until recently. Larvae are very common and defoliation of fir is moderate to heavy over about 100 acres on the upper slope. All indications point to an increase in outbreak intensity next year.

5010-108

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

The Reynolds Creek infestation is about one mile northwest of Murphy Ranch on the north side of Baker Mt. and joins the 1967 burn in that area. The infestation is heaviest over about 60 acres on the east slope of the south fork of Reynolds Creek. Defoliation of fir is extremely severe and very little foliage remains on most trees on the slope. Populations are lighter on trees along the creek. In the absence of virus, there should be considerable expansion of this population in 1969.

Larvae were collected from both the Pueblo Canyon and Reynolds Creek areas and brought to Corvallis for rearing. Several virus suspects were included in the collections.

Remarks:

The current tussock moth outbreak in the Sierra Anchas would seem to be a good prospect for an operational test in 1969. The outbreak occurs in a relatively isolated fir type with only minimal opportunity for spread in the event the virus failed to control the insect. There are also indications that tussock moth populations may be rising in other areas in the southwest. This situation may result in other areas becoming available soon for subsequent pilot tests provided the virus has proved effective in a field experiment. The Murphy Ranch and Pueblo Canyon infestations are both acceptable from the standpoint of timber size and accessibility for foliage sampling and population evaluation after spraying. A decision now needs to be made on the suitability of these areas for experimental design and spraying.

Recommendations:

Biological and physical evaluations should be carried out as soon as possible to: (1) ascertain the presence and level of occurrence of natural virus in the potential test populations and (2) determine the suitability of the location and terrain for plot layout and spraying of virus in an operational test. Based on this information, a definite decision should be made by early fall regarding our interest in the Sierra Ancha infestation as a test site in 1969.

cc: K. H. Wright
C. G. Thompson ✓
B. Maksymiuk
Frank Yasinsky, R-3
Harold Flake, R-3

Center Mtn
Lucky Strike Mine
Pueblo Mine
Peyrolds Creek Intrusion
Pueblo Canyon Intrusive
Murphy Ranch Intrusive
Murphy Ranch
Aztec Pk
7694
Lookout
Peterson Ranch
Mountain
Moody Pt
Finton
Pueblo
Canyon
Mud Spr
Coyote
7456
7415
7733
6739
21
22
23
24
25
26
27
28
33
34
35
36
4
3
2
1
10
11
12